Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL ☐ GAS WELL ☒ OTHER

2. NAME OF OPERATOR: Tenneco Oil Company E & P WRMD

3. ADDRESS OF OPERATOR: P. O. Box 3249, Englewood, CO 80155

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 990' FSL, 990' FWL

RECEIVED
SEP 6 1985
BUREAU OF LAND MANAGEMENT
FARMINGTON RESOURCE AREA

5. LEASE DESIGNATION AND SERIAL NO.: SF-078097

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

8. FARM OR LEASE NAME: Heaton LS

9. WELL NO.: 3

10. FIELD AND POOL, OR WILDCAT: Blanco Mesaverde

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 32, T31N, R11W

12. COUNTY OR PARISH: San Juan

13. STATE: NM

14. PERMIT NO.:

15. ELEVATIONS (Show whether DF, RT, GR, etc.): 5797' GL

16. **Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data**

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
TEST WATER SHUT-OFF		PULL OR ALTER CASING	X	WATER SHUT-OFF		REPAIRING WELL	
FRACTURE TREAT	X	MULTIPLE COMPLETE		FRACTURE TREATMENT		ALTERING CASING	
SHOOT OR ACIDIZE	X	ABANDON*		SHOOTING OR ACIDIZING		ABANDONMENT*	
REPAIR WELL	X	CHANGE PLANS		(Other)			
(Other)				(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)			

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Tenneco requests permission to plug off, sidetrack, run casing, and recomplete the referenced well according to the attached detailed procedure.

RECEIVED
SEP 13 1985
OIL CON. DIV.
DIST. 3

18. I hereby certify that the foregoing is true and correct

SIGNED Scott McKinney TITLE Sr. Regulatory Analyst DATE May 15, 1985

(This space for Federal or State office use)

APPROVED
DATE SEP 11 1985
John Keller
for AREA MANAGER
FARMINGTON RESOURCE AREA

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

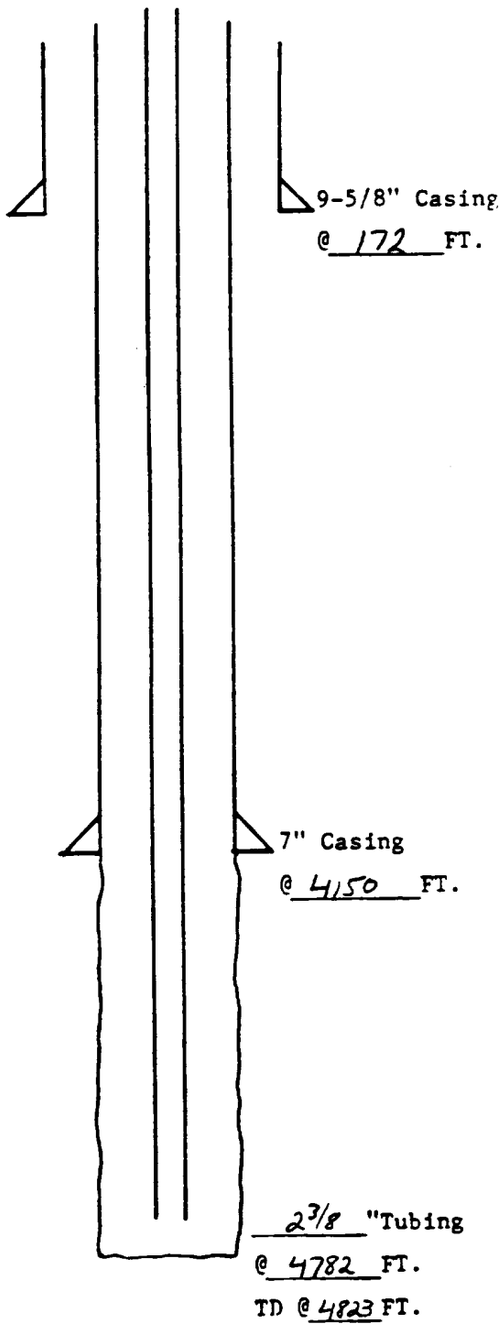
*See Instructions on Reverse Side

NMOCC

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

MV & PC OPEN HOLE

SIDETRACK WORKOVER PROCEDURES-A



4127W

LEASE Heaton LS WELL NO. 3

9-5/8 "OD, 25.4 LB, _____ CSG.W/ 150 SX

TOC @ surface

7 "OD, 23 LB, _____ CSG.W/ 300 SX

TOC @ 2580

DETAILED SIDETRACKING PROCEDURE:

1. Prepare location by blading and installing anchors, if necessary. Install blowdown lines and blow well.

2. MIRUSU. Kill tbg w/1% KCl water.

3. NDWH. NU 11" 3M csg spool w/2-1/16" 3M plug valve. NU 7-1/16" DSA. NU 6" 3000 psi BOPE. NU blowdown lines to BOP.

4. Kill annulus w/1% KCl water.

5. POOH laying down 2-3/8", 4.7# tubing. Visually inspect tbg on trip out.

   NOTE: If tbg is stuck, do not pull over 40K# as tbg may be in very poor condition. RIH w/jet cutter and attempt first shot at least 100' below the 7" csg shoe.

6. RUWL and run GR-CCL log from 100' below 7" csg shoe to the Fruitland Coal top. RIH on wireline and set Baker cement retainer approx 200' above the 7" csg shoe. PU stinger, crossover, 2-7/8" drill pipe and TIH. Fill hole and PT to 1500 psi prior to stinging into retainer.

7. Sting into retainer and establish injection rate. Squeeze open hole w/300 sxs Class H w/1% $CaCl_2$ (15.6 ppg, 1.18 FT^3/SK, 5.2 GAL/SK; sidetrack plug). Sting out, pick up 30', and reverse tbg clean. TOOH and LD stinger.
   NOTE: Have cement tested w/field water for pump time and 24 hour compressive strength prior to cementing.

8. RDMOSU.

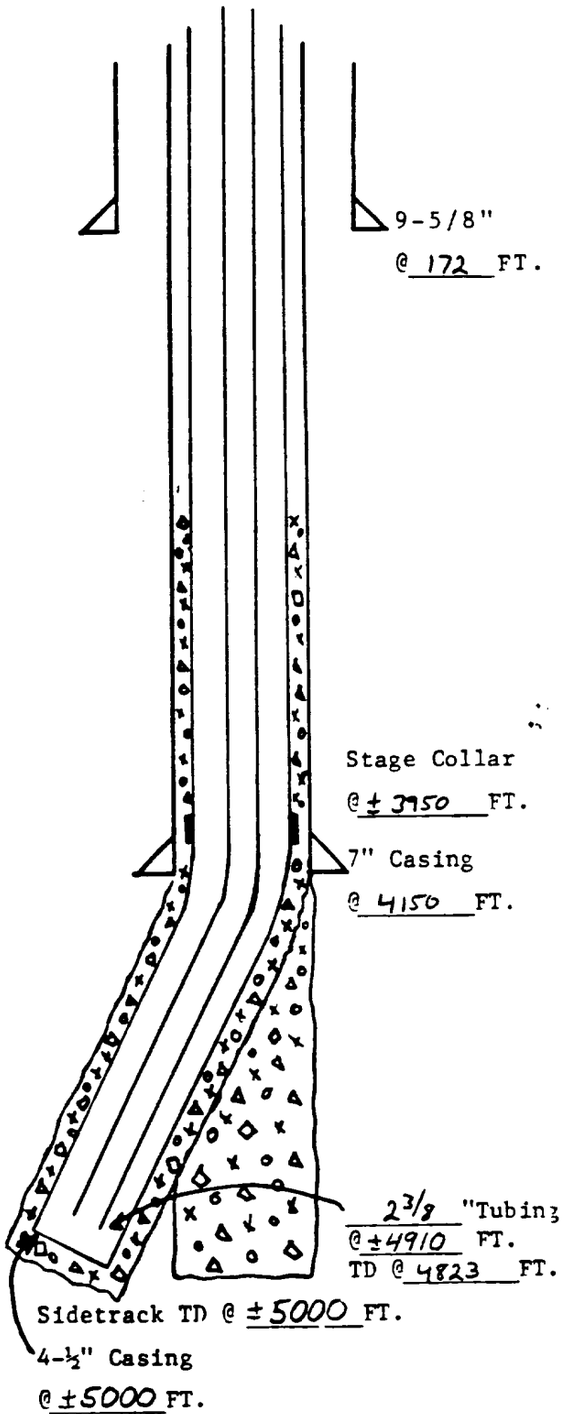
9. MIRU Dwinell Bros. Rig #1. RU to drill w/water.

10. TIH w/6-1/4" J-1 bit, bit sub, 10 4-3/4" drill collars, and balance of drill pipe to TOC. Drill out cement retainer, and dress off open hole plug to 15' below the 7" csg shoe. Circulate hole clean and TOOH.
    NOTE: Caliper ALL tools, O.D. and I.D., before running in hole.

11. RU to drill w/gas. PU 6-1/4" J-33 bit, knuckle joint kick-off assembly, 4-3/4" drill collars and TIH. Blow hole dry w/N_2. Take inclination (TOTCO) survey on wireline before drilling. Drill 15'-20' and take another TOTCO survey. When angle has built approx 7°, blow hole clean and POOH.

12. LD knuckle joint. TIH w/J-33 bit, 6-3/16" near bit reamer, and 4-3/4" drill collars. Drill Mesaverde section w/gas to approx 450' below the top of the Point Lookout. Take TOTCO surveys every 500' or less as required, recording all surveys in the daily log. At T.D., blow hole clean and TOOH for logs.

MESAVERDE SIDETRACK WORKOVER - B



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TOC @ surface

7 "OD, 23 LB, _____ CSG.W/ 300 SX

TOC @ 2580

DETAILED SIDETRACKING PROCEDURE (CONTINUED):

13. RUWL and run GR-DIL and GR-CDL-Caliper over entire open hole. TIH for wiper trip, blow hole clean, POOH laying down, and RU to run csg.

14. Run 4-1/2" 10.5# K-55 STC csg as a full string as follows:

    A) Conventional float shoe and shut off baffle one joint up.
    B) One centralizer w/stop ring in the middle of the shoe joint and one centralizer on the collar above. Run one centralizer on every other collar in the open hole. Place one centralizer on the first collar below the wellhead (approx 15 centralizers total).
    C) Run at least 1 short (flag) joint approx 200' off bottom.
    D) Run stage collar tool @ 3950 ft. (approx 200' above 7" shoe).
    E) Casing will be electronically inspected before arriving on location. Visually inspect body and end areas and drift to 4.052".
    F) Thread lock all connections up to and including the float collar. Use API csg dope on all remaining connections. Recommended csg torque is 1460 ft-lbs.

15.
    A) Precede 1st stage cement w/10 BBLS mud flush containing fluid loss additive.
    B) Reciprocate csg w/20' strokes and cement first stage w/150* sx Class B containing 6/10% fluid loss additive (D-60, Halad-9).
    C) Drop shut-off plug and displace w/76 BBLS 1% KCl water. If plug does not bump, do not overdisplace.
    D) Drop opening bomb. After allowing time for bomb to seat, pressure up csg to open stage tool.
    E) Cement 2nd stage w/300 sx 65/35 POZ-mix containing 6% gel (12.4 ppg, 1.84 $FT.^3/SK$, 9.9 gal/SK) & tail-in w/50 sx Class B containing 2% KCl.
    F) Drop closing bomb and displace w/63 BBLS fresh water. If plug does not bump, do not overdisplace.

    *Final amount to be determined by caliper log + 10%.

    NOTE: Have cement blends tested w/field water for pump time and 24 hour compressive strength prior to pumping. Use cementing company's csg hardware (float shoes, float collars, stage collars, etc.).

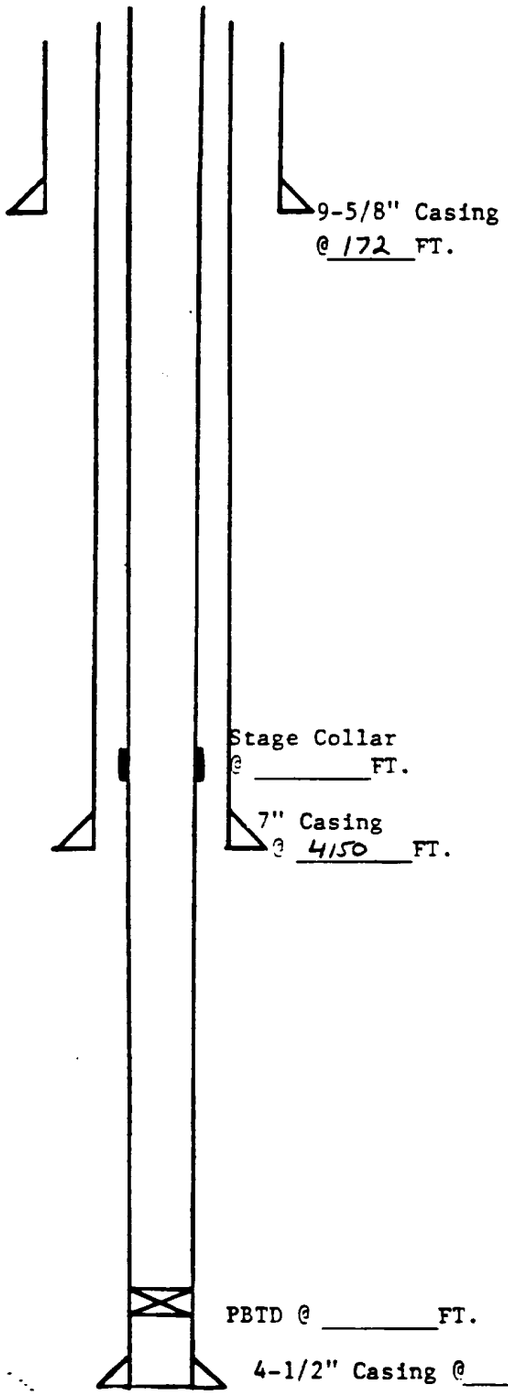
16. Set slips w/full csg weight. NDBOP and cut off 4-1/2" csg. NU tbg spool. PT wellhead to 3000 psi.

17. RDMO Dwinell Bros. #1.

Drilling Department

MESAVERDE SIDETRACK

COMPLETION DIAGRAM - C



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TOC @ surface

7 "OD, 23 LB, _____ CSG.W/ 300 SX

TOC @ 2580

DETAILED COMPLETION PROCEDURE:

18. MIRUSU. NU BOPE.

19. PU 3-7/8" bit, csg scraper, 2-3/8" 4.7# J-55 EUE 8rd tbg & tally in hole. Fill hole & PT csg to 3500 psi. Rev hole clean & displace w/1% KCl wtr.

20. Spot a sufficient quantity of 7-1/2% DI HCl to cover the perforated interval + 200'. POOH & LD bit & scraper.

21. RUWL. Run GR-CCL fr PBTD to 150' above the highest pay. Perf the Lower Mesaverde under lubricator as directed by the Geological Dept from the top interval down. Use 3-1/8" hollow carrier csg guns loaded 2 JSPF @ 120° phasing.

22. Acidize down csg w/20 gal per perf of 15% wgtd HCl containing 600# NaCl/1000 gal & 1.5 1.1 SG RCN ball sealers per perforation. Displace at maximum rate w/MSP less than 3500 psi.

23. RIH w/junk basket on WL to knock off & recover ball slrs.

24. RU & frac Lower Mesaverde w/slickwater containing 1% KCl, 15#/1000 gal friction reducer & 2500#/ft 20/40 sand @ 1 BPM/perf; fluid/sand design on following page. Flush to 10 BBLS shy of top perf & close blind rams ASAP.

25. RUWL & RIH w/Baker 4-1/2" RBP. Set approx 50' above top perf. Dump 2 sx frac sand on RBP, load csg w/1% KCl water, & PT RBP to 3500 psi.

26. TIH w/2-3/8" tbg to approx 10' above the RBP & spot a sufficient quantity of 7-1/2% DI HCl to cover the top perf + 200'. POOH.

27. RUWL. Perforate the Upper Mesaverde under lubricator as directed by the Geological Engineering Dept from the top interval down. Use 3-1/8" hollow carrier csg gun loaded w/2 JSPF @ 120° phasing.

28. Acidize down csg w/20 gal per perf of 15% wgtd HCl containing 600# NaCl/1000 gal & 1.5 1.1 SG RCN ball sealers per perforation. Displace at max rate w/MSP less than 3500 psi.

29. RIH w/junk basket on wireline to knock off & recover ball sealers.

30. RU & frac Upper Mesaverde w/slickwater containing 1% KCl, 15#/1000 friction reducer, & 2500#/ft 20/40 sand @ 1 BPM/perf; fluid/sand design on following page. Flush to 10 BBLS shy of top perf.

31. RD frac head. PU retrieving head for 4-1/2" RBP & TIH on 2-3/8" tubing. CO to RBP w/foam. Latch on to RBP & POOH. LD RBP & retrieving head.

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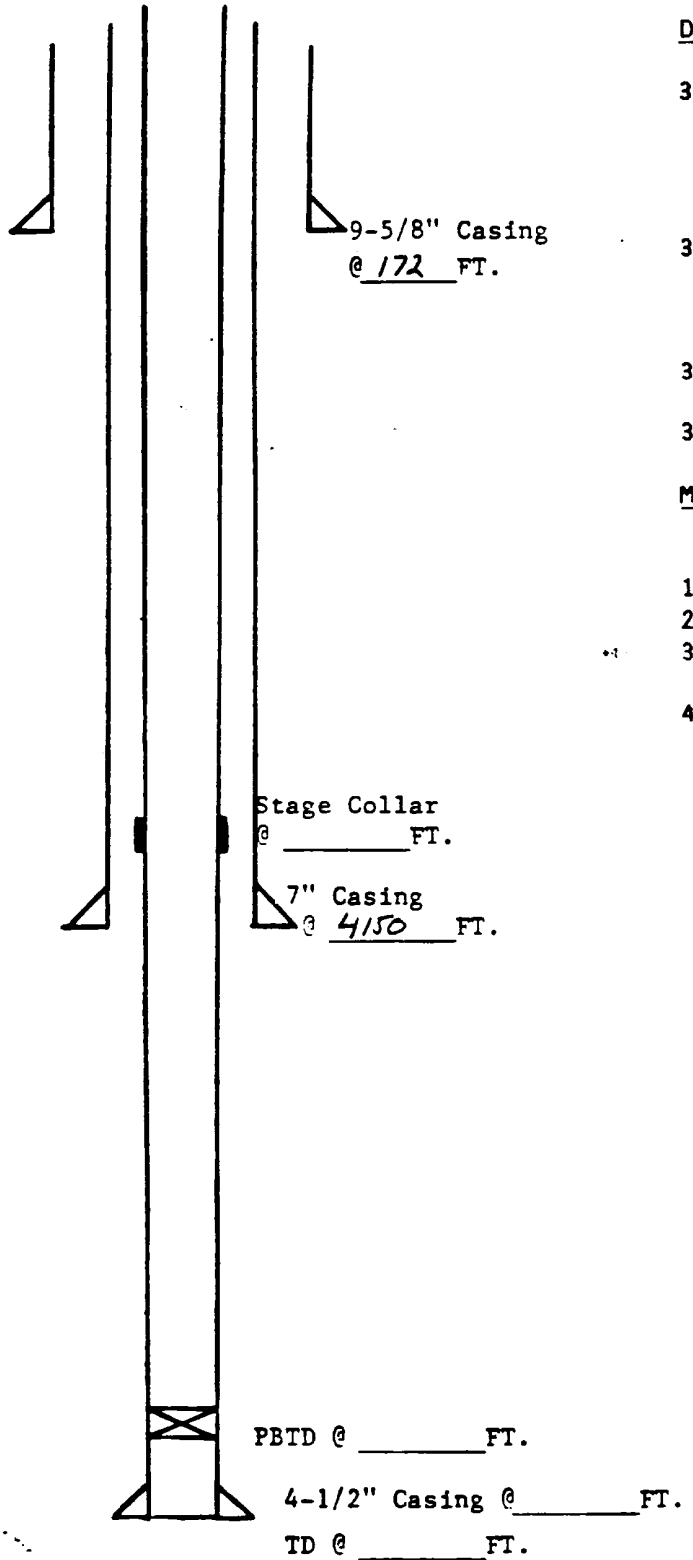
MESAVERDE SIDETRACK

COMPLETION DIAGRAM - C



DETAILED COMPLETION PROCEDURE (CONTINUED):

32. TIH w/2-3/8" production string as follows:
    1 jt 2-3/8" tbg
    1 1.781" ID SN w/expendable plug
    Balance of 2-3/8" tbg

33. Tag fill & record amount. CO to PBTD w/N_2 foam. PU & set bottom of tbg within 20' of lowest perforation. Land tbg & NUWH.

34. Kick well around w/N_2 & FTCU.

35. RDMOSU. SWI for AOF.

MESAVERDE FRAC DESIGN:

1. 2500 #20/40 sand per ft. net pay.
2. 2 BPM per ft. net pay.
3. Fluid to contain 1% KCl, 15#/1000 gal friction reducer.
4. Schedule
   30% pad
   1 csg volume @ 1/2 ppg 20/40 sand
   1 csg volume @ 1 ppg 20/40 sand
   1 csg volume @ 1-1/2 ppg 20/40 sand
   Remains @ 2 ppg 20/40 sd

Peter M. Mueller
Production Department